

## CLAIMS

1. Reinforced safety device for the collection of electrical energy at ground level for a land-borne vehicle of the ground level electrical feed type by a sliding contact with at least one polar part, characterized in that it consists of a collection blade (10), a vehicle support holder (11) on the upper part of this collection blade (10), means for raising this blade and means for electrical connection to the vehicle's feed circuit, with the blade (10) being electrically insulated from the ground and lane structures, a part of which can spread apart two holding fixtures (23) and (24) placed side-by-side opposite to one another, running on the ground or in the ground along the lane, and supported by a support carrier (21) with a bottom that is more or less flat, with two lateral walls forming a collection assembly (9), the collecting parts or areas of the blade (10) being kept in electrical contact by sliding along the conductors or conducting parts (19) and (20) supported by each holding fixture (23) and (24), each of these holding fixtures being provided along its entire length with elastic recall return towards its adjacent counterpart by elastic compressibility means engendering locally an elastic recall force to bring them together after lateral compression, or a series of separate recall devices.

2. Device for the collection of electrical energy at ground level according to the previous claim characterized in that the methods engendering the closing recall force for one or the other of the two holding fixtures (23) or (24) is a tubular elastic body (25) or (26) that can be subjected to lateral compression, and is housed in the space existing between the holding fixture and the corresponding lateral wall of the carrier support (21) of the collection assembly (9).

3. Device for the collection of electrical energy at ground level according to one or other of the previous claims characterized in that the body of the blade (10) is a flat piece (12) with a forward beveled edge (14) and in that the lower extremity is in the form of a bulge in the shape of a longitudinal block (15), with flat lateral edges (17) and (18) at least one of which has a sliding contact on the opposing conductor or the linear polar part (19)

or (20) supported by the corresponding holding fixture (23) or (24).

4. Device for the collection of electrical energy at ground level according to one or other of the previous claims characterized in that each conductor (19) or (20) is connected to a different phase and feeds the blade (10) via two electrical pathways.

5. Device for the collection of electrical energy at ground level according to the previous claim characterized in that the collection blade (10) is a device consisting of two different electrical conductors that are insulated from one another, and are each connected to a different phase.

6. Device for the collection of electrical energy at ground level according to one or other of the previous claims characterized in that the polar holding fixtures are made of a flexible insulating material so as to permit a local gap for the clear passage of the blade.

7. Device for the collection of electrical energy at ground level according to one or other of the previous claims characterized in that the conductors (19) and (20) are each inserted into a slot provided in the cavity of one face of the edge of one of the holding fixtures (23) and (24) facing its counterpart.

8. Device for the collection of electrical energy at ground level according to one or other of the previous claims characterized in that the support section (21) is buried and in that the surface of the ground at this level is protected by a protection (28) based on an insulating opening which is opened by the passage of the blade (10), and closes up behind it.

9. Device for the collection of electricity at ground level according to the previous claim characterized in that the upper surface of the support section (21) is equipped with a protector (28) in the insulation cover which opens with the passage of the blade (10) and closes up behind it.

10. Device for the collection of electrical energy at ground level according to one or other of the previous claims characterized in that device for electrical collection feeds a vehicle guided by the central rail of a guidance assembly at ground level (8).

11. Device for the collection of electrical energy at ground level according to one or other of the previous claims characterized in that the blade (10) is connected to the guidance arm (42) of the fixed guideway vehicle.

12. Device for the collection of electrical energy at ground level according to claim 1 characterized in that the guide rail consists of two semi-rails (29) and (30) installed side-by-side on each of which rolls a guide roller (40) or (41) of the guidance assembly (42) of the vehicle.

13. Device for the collection of electrical energy at ground level according to the previous claim characterized in that each semi-rail (29) or (30) has a general transverse shape in the form of a U consisting of a rail riser wing (31) terminated at the top in a rail conformation (32), a base (33) and a longitudinal return toward the top forming a lateral wall (34) which terminates in an upper edge (35) that turns back in toward the interior.

14. Device for the collection of electrical energy at ground level according to the previous claim characterized in that the rail riser wing (31) has a thick core (36) and a head (37) which when viewed in cross-section, has the shape of a hook comprised on the external side of a linear projection formed of a rolling track (39) on which rolls one of the guide rollers (40) or (41) on its load-bearing surface, this rolling track (39) being sloped toward the bottom of an inclined ramp (43) and on the other side, with a flat, horizontal edge (44) and on the inner side, this conformation consists of a flat horizontal bearing edge (45) followed by a perpendicular edge with a middle receiver slot (46), this conformation constituting the reception surface for a linear watertightness joint (47).

15. Device for the collection of electrical energy at ground level according to claims 13 or 14 characterized in that the space between the lateral wall and the thick core (36) is filled by a flexible joint (38) with its upper face inclined, the joint immobilized between its walls and the upper edge (35) which turns back into the interior.

16. Device for the collection of electrical energy at ground level according to claim 12 characterized in that the collection blade (10) traverses the guide rail and a composite joint (47) the two parts of which spread apart or are raised locally when the blade (10) passes, and recoil after its passage.

17. Device for the collection of electrical energy at ground level according to the previous claim characterized in that the composite joint (47) is formed of two linear joints (48) and (49) installed side-by-side which meet at one of their edges in the middle section, and constitute a linear pivoting articulation by means of their opposite edges with conformation with the extremity of the corresponding semi-rail (29) or (30).

18. Device for the collection of electrical energy at ground level according to one or other of the previous claims characterized in that it is intended for a vehicle guided by the ground level electrical energy collection assembly moving along the guide rail.

19. Device for the collection of electrical energy at ground level according to one or other of the previous claims from 1 to 17 characterized in that it is intended for vehicle guided by other than the ground level electrical energy collection assembly moving along the guide rail.